Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands Transforming the 2.5 GHz Band	WT Docket No. 18-120

Reply Comments

EDUCATORS AND BROADBAND PROVIDERS

FOR AMERICAN RURAL COMMUNITIES

Educators and Broadband Providers for American Rural Communities, ("EBPARC"), is an informal coalition consisting of educational institutions who do not hold a 2.5 GHz license and wireless operators in respective areas who have a shared objective of delivering sufficient wireless broadband coverage to rural American communities that are characterized as being unserved or underserved by traditional internet service providers and lack basic internet access with modern broadband speeds. EBPARC appreciates the opportunity to submit this reply concerning the Federal Communications Commission's Notice of Proposed Rulemaking on WT Docket No. 18-120, with respect to Transforming the 2.5 GHz Band.

Several groups that have filed comments on this Docket in response to the Commission's Notice of Proposed Rulemaking and do not support the Commission's objective in efficiently

issuing the balance FCC held 2.5 GHz spectrum to the nation. Unfortunately, comments filed by these operators and interest groups, while presumably well intentioned, will ultimately fail to promote the best use of the spectrum per the FCC's request. The Commission's existing rules have worked well for all band stakeholders: educators, operators, and mobile/fixed wireless customers for many years. The Commission's goal should simply be to preserve the educational nature of this spectrum, to expand current license area, and to issue new licenses in unserved and underserved areas of the country at the earliest possible date. Ultimately, educational institutions located where there is obtainable 2.5 GHz spectrum should have equal opportunity to access the spectrum on terms similar to what existing licensees in half of the nation have already received decades ago.

Being that this is the *only* spectrum dedicated to education, and considering the benefits that this spectrum has already yielded for educational entities nationwide, we request that the FCC act to facilitate the positive impact these new licenses can have in American communities and the great benefit that issuing new licenses to educators will have on bridging the digital divide and closing the homework gap.

I. The Current EBS System is Working Well

In its comments on p. 13 and elsewhere WISPA indicates that "educational use is non-distinguishable" from other uses of the spectrum.[1] We contend that WISPA is mistaken in these comments, as educational use typically involves a customized and dedicated service to the students and staff of k-12 schools, colleges and universities that is clearly distinguishable from typical use

[1] WISPA comments filed in the Docket No. 18-120

cases. These devices, thus, provide direct educational benefits in a period of time when access to the internet for general internet and to education-specific content has become both a critical to the success of students in achieving a well-rounded education.

I. An Auction after License Rationalization of Existing Licenses is not Advised

Sprint, AT&T, Verizon, WCAI and WISPA all recommend an auction of some type after licenses are rationalized to county borders, or some other border.[2] While ultimately an auction for any licenses that are not first allocated to schools during the priority filing window may be worthwhile, choosing to deprive rural educational institutions of the opportunity to apply for and receive EBS spectrum rights would be a mistake. Instead, the opening of priority windows for tribes and then for appropriate educational institutions would be a far better approach for rural communities and for the country as a whole.

New EBS holders should be able to decide the best use of the spectrum in their areas, choosing to either build their own networks or work with local operators to create systems matching local need, as opposed to only taking into account potential future plans and interests of national mobile wireless operators. Auctions may be a reasonable way to make any remaining licenses directly available - after the licenses received through local priority windows are issued. During the auctions, the Commission should use its recent approaches giving bidding preference to legitimate small businesses.

[2] Sprint comments page 10, WCAI comments page 5, AT&T comments page 6, NTCA comments page 4

II. An Incentive Auction is not Advised

EBPARC members agree with Sprint, NEBSA/CTN and NEBSA that an incentive auction makes no sense in this band.[3] AT&T is mistaken in recommending an incentive auction. Most EBS licensees have either constructed and are operating their own systems or have leased to third parties. Clearly if a license holder or licensee has constructed its own system and is using it, then they cannot expect to sell the license and keep operating. Additionally, demand from buyers for spectrum that is already leased to Sprint or another party would also be limited, since the lease would prevent construction of another system by the buyer. Finally, the EBS licensing rules have encouraged an environment where EBS spectrum leases can occur easily, which obviates the need for an incentive auction.

Indeed, the only time when the FCC used an incentive auction was in a circumstance where the new owners would be using the license for mobile two-way services, where immediately prior to the auction, only one-way fixed TV broadcasting series were in place. EBS licenses have had mobile authorization since 2005, and well before that two-way service was allowed on the ITFS licenses that converted into EBS. In this case, no change in the type of service that may be offered is being made by the FCC, so there is no need for an incentive auction.

III. Auctions are not Appropriate until after Priority Filing Windows

Sprint recommends that "large area licenses" be opened for general competitive bidding. This would be an unfortunate mistake. If the FCC decides that auctions are needed to fully issue vacant channels, EBPARC believes that they may be appropriate after the priority filing windows take place, with subsequent auctions then being conducted at the county level. This arrangement,

[3] Sprint comments page 14, Voqal comments page 25

along with the designated entity discounts previously used by the FCC and advocated by EBPARC, would give small commercial operators, who are the most likely to construct in rural areas due to their streamlined cost structure and focus on serving rural areas, an equal opportunity to acquire spectrum rights. Rural licenses at the county level are much more likely to generate actual rapid network construction in the immediate term, as opposed to build-out requirements with deadlines 5 or 10 years into the future. Small commercial operators that have acquired the right to construct wireless networks, including those listed in WISPA's and NEBSA's comments, have rapidly constructed networks[4] – often serving the most rural and most remote customers in the respective counties.

IV. Performance Standards Should be Focused on Educational Benefit

The FCC recently revised its definition of substantial service requirements for many other wireless services and wisely made no changes to the EBS definitions of educational use or substantial service. EBS rules require that at least five percent of the capacity of the licenses be reserved for educational use. We believe that this is the ideal level to balance between the need to deliver educational services versus the reality that the wireless business is a competitive business with low margins in urban areas and an often-non-competitive business that still has low profit margins if rural areas. The problem that often arises for operators in rural areas is that there are relatively few customers to allow for recovery of the high fixed costs of delivering service. The combination of 20 hours per channel per week or 5 percent of the system capacity being reserved for educational use is a good threshold for substantial service and educational use.

[4] WISPA comments page 4, NEBSA/CTN comments

While 5 percent of system capacity or 20 hours per week may seem like low thresholds, the benefit that EBS licenses have already brought to schools and to rural areas where the FCC previously granted licenses has been incalculable. The FCC now has the unique chance to continue and expand upon this success in the roughly 50 percent of rural American counties that lack access to EBS spectrum rights on vacant channels held by the Commission. In many cases, the network built by a school or small rural operator will be the first non-satellite broadband internet offering to residents, even though four different cellular operators have had wireless licenses available to serve the same area for many years – often decades – but have not provided broadband fixed wireless data services. Often the local telco has also decided for economic reasons to not build broadband DSL or fiber to these areas. EBS is a proven success where it is in the hands of local schools or local operators, and the FCC should allow schools in areas where licenses have not previously been available to continue this success.

V. Existing Educational Use Requirements Should be Maintained

The filed comments of several educators and operators support maintaining the existing educational use requirements, which have been advantageous to the nations licensee's educational mission for many years. Any increase or decrease to the educational reservation of the spectrum is unneeded as the reservation has been beneficial to educators since the inception of the requirement. While our coalition agrees with The Wireless Communications Association International (WCAI) comment that the FCC's proposed 20% educational reservation is too high for operators to afford[5], our coalition disagrees with WCAI's proposal to instead completely eliminate the minimum educational use rules that currently exist.[6]

[5] WCAI comments page 26
[6] WCAI comments page 6 & page 23

The goal of the FCC should be to preserve the educational nature of the spectrum, rather than stripping educators of one of the benefits that actually make the spectrum educational. Educational use is growing and continues to grow while schools are learning how to put the reservation to the best use. Local operators are providing essential wireless access in the form of service credits to schools across the country, which in many cases aid students who do not have access to internet to complete assignments or continue their education at home. A rural internet service provider in Louisiana, for example, supplies a local college radio station with spectrum to broadcast its weekly radio show. Uses such as this would not be possible without educational use requirements. If the FCC eliminates educational use requirements, the Commission would be disadvantaging the youth of this country.

VI. The Commission Should not Consider License Assignment to Non-Educational Entities

The assignment of EBS licenses to non-educational entities would not assist in bridging the digital divide or homework gap and in reality, would be taking a step backward. Nationwide operators and organizations who represent large carriers have filed comments which request for the elimination of educational eligibility restrictions.[7] We find it troubling that the operators who already hold significant amounts of 2.5 GHz spectrum in rural America, and have chosen not to deploy networks in rural areas, are now requesting that the FCC change existing rules so that they can acquire more spectrum. Why would it make sense to do this if the Commission's goal is to spur broadband development in unserved areas of the country, where residents of the respective communities are very much in need of internet access? If the FCC would allow commercial

[7] Sprint comments page 9, WCAI comments page 6 & page 23, AT&T comments page 6, Verizon comments page 4, WISPA comments page 12, Charter comments page 3, CCA comments page 3

operators to hold the licenses to EBS there would likely be no substantive increase in broadband coverage for rural American communities, benefits which are already providing significant benefits to other parts of the country. National carrier business models are designed to focus on development of networks in population rich urban areas. While the national carriers have the financial capability to acquire spectrum licenses, they have proven to "sit" on the spectrum in rural areas without deploying full networks. If the spectrum was leased to a local operator, with a business model focused on developing the wireless infrastructure in rural areas, the in-need community would have a developed network much sooner.

VII. 20% Threshold for GSA Expansion

Sprint recommends that if an EBS license covers at least 10% of a county, it should be allowed to expand. WISPA proposes 35%. EBPARC supports the expansion of existing licenses based on some reasonable threshold. In general, we think that a threshold in between the two proposals makes sense, and advocate for 20% as a good threshold value. With this threshold, if 80% or more of the county is currently unlicensed, then it should be made available for the priority window application periods. For less than 80% new availability by geographic area (meaning that at least 20% of the county area is covered by an existing license), the size of the resulting application area could be too small to support a separate network, and it would be better just to allow the existing license(s) to expand to fill the rest of the area of a county.

VIII. Utilization of EBS Spectrum

WISPA lists on page 4 of its comments a total of six of its members that have built local networks utilizing leased EBS spectrum. We would like to note that there are many dozens of

other companies also providing fixed wireless services in rural areas based on EBS leases. In all of these cases, the commercial operators are providing wireless services directly to schools, staff and/or students. Most of these leases were initiated in the last few years, following improvements in the availability of fixed wireless equipment and the increases in demand for broadband internet access services nationwide. Additionally, there are hundreds of similar companies providing fixed wireless services in rural areas on alternative frequency bands, such as 3.65 – 3.70 GHz or unlicensed bands, due to the lack of 2.5 GHz EBS spectrum availability in their operating areas. We believe many more small local operators will seek to emulate existing EBS deployments in their rural communities after additional spectrum is allocated.

IX. Logical Suggested Band Plan

WISPA on p. 20 in its comments supports a revised band plan that looks practical for newly-issued licenses. For the sake of simplicity, EBPARC supports this only for licenses that are issued during the priority windows or in the case of an auction for any licenses still available after the priority windows close. This new band plan would not make sense to use this band plan for rationalization of existing licenses. If the NEBSA plan is accepted, then the J guard band for any new licenses where there is no pre-existing A123 or B123 license should be included with the A4, B4, C4, D4 AND G4 block where it would provide 4 MHz of additional contiguous spectrum for a total of 34 MHz. The K G guard band should be included with the G123 block for a total of 17.5 MHz. There is no way to make this the K G guard band contiguous with newly issued spectrum, but it should still be issued, and licensees then may find ways to swap channels in ways that are mutually beneficial.

X. Avoid Auctions until after Priority Filing Windows

WISPA proposes auctions and suggests that the limit of spectrum that any one entity could win in any area is 63 MHz. While EBPARC strongly believes that auctions should be avoided until after the priority windows close, we agree that a limit should be set for the maximum MHz that any entity should control based on the auction and its prior holdings, and based on the new band plan above, we believe that 66 MHz is the right threshold, so if a party holds or has more than 66 MHz of EBS or BRS licenses in a given location, that party should not be allowed to bid in the auction. If a party holds less than 66 MHz, it could bid for any combination of up to 66 MHz which could include the A123 and B123 license plus the C123 and D123. Alternatively, it could also bid for the A4, B4, C4, D4 and G4 channels + K guard band channels (a total of 34 MHz) plus the G123 + KG for a total of 51.5 MHz or for any other combination of channels in each area and win up to 66 MHz. As WISPA points out, this band plan would allow the new licensee to accumulate more than 45 MHz in each area which many operators feel is the minimum necessary to provide adequate broadband service.

XI. Existing Licenses Should not be Broken Up

Breaking up existing licenses into census tracts will serve absolutely no purpose and create significant inefficiency of spectrum use. The Commission should maintain existing county licensing as census track size licenses would only overburden the Commission due to overlapping GSA's. Currently there are approximately 74,000 census tracts and 3,200 counties nationwide, overlap scenarios will occur far less frequently if the current rules are retained. Additionally, being that range and propagation are some highlights of 2.5 GHz spectrum, counties are a license size

that makes sense to leverage these characteristics, as census tract size licenses would be hinder the strongest properties of the spectrum. EBPARC agrees with Sprint's filed comments that existing licenses service areas should not be changed.[8]

XII. The Commission's Proposed Build Out Standards are too High

If promoting the development of 2.5 GHz spectrum is in the Commission's best interest it must not adopt the proposed harsh build out requirements stated in the *NPRM*. Large entities such as Sprint, WCAI, and CCA filed comments in the *NPRM* which stated that the Commission's build out requirements were too stringent and would be very difficult to achieve.[9] What does that mean for smaller rural commercial operators? The requirements would not motivate operators to enter or continue operating in the band, which could ultimately decrease the value of the spectrum. The Commission instead should adopt build out requirements that promote growth and sustainability which will be advantageous to the future development of 2.5 GHz spectrum in the United States.

XIII. 20% Educational Use Reservation is too High for Operators

Most rural commercial operators rely heavily on long-term return on investment. It is very costly to deploy a network from the ground up, not to mention the branding and marketing necessary to be recognized by potential customers. We agree with comments filed by WCAI[10] that reserving 20% of the licenses capacity for educational use is simply too much for an operator to afford in conjunction with paying monthly lease royalties. Rural wireless service providers will be faced with a challenge in succeeding with such a requirement in place and potentially would

[8] Sprint comments page 8
[9] Sprint comments page 13, WCAI comments page 30, CCA comments page 7
[10] WCAI comments page 26

not have the financial means to advance the wireless network to the extent it should be developed. Ultimately, this will likely result in rural America continuing with no solution to much needed wireless internet coverage.

XIV. Flexibility for Existing Licensees is Unnecessary

It is critical to the future educational use of the band that accredited educational institutions are the only license holders for EBS. Sprint has proved that educational license eligibility has not deterred commercial deployment as they are the major stakeholder in the band and hold far more 2.5 GHz spectrum than any other entity. Voqal filed comments to the FCC's *NPRM* which supports these reply comments.[11]

XV. A First-Come-First-Served Application Window is the FCC's Most Logical Solution

In the third priority filing window proposed in the *NPRM* the Commission proposes entering competing applications into a commercial auction against national operators. A first-come-first-served application window would instead be the most efficient and effective way to issue new 2.5 GHz licenses while not stripping educators of the opportunity that was originally intended for them. A first-come-first-served filing window would also aide the Commission in not being overburdened, having to resolve mutually exclusive applications in the majority of the over 3,200 counties that exist nationwide.

[11] Voqal comments page 14

XVI. Support for Filed Comments

EBPARC supports the NEBSA/CTN, Voqal and Rural EBS Coalitions comments in their entirety. These organizations have represented EBS licensees very well for decades. They represent schools, colleges and universities that educate millions of students each year. In this proceeding, they have decided to avoid asking for more licenses to be issued to existing license holders and have instead focused on extending the benefits of EBS licenses to educational institutions in rural areas that have not previously benefitted from these licenses. The fact that NEBSA/CTN have filed comments only to benefit third parties (i.e. schools that do not currently hold licenses and are not members of NEBSA/CTN) with their comments is an indication that their views should be should be treated seriously by the Commission and generally reviewed in a positive light.

XVII. Conclusion

EBPARC supports comments in the Commission's preceding such as NEBSA/CTN, Voqal and the Rural EBS Coalition whose comments are in parity with the goal of the FCC, which is to promote efficient use of the 2.5 GHz band. Several comments filed to the FCC's preceding will simply NOT promote efficient use of the spectrum or solve rural America's broadband problem but only benefit large nationwide operators who already hold significant number of rural licenses, where they are not deploying networks. EBPARC strongly encourages the FCC to adopt rules that will preserve the educational nature of this spectrum, simultaneously considering the educators in whom this band was originally intended for. In Attachment 1 of this reply, a list of EBPARC group members

is included. The list consists of educators and wireless operators who are members of EBPARC and support these reply comments.

Respectfully submitted,

EDUCATORS AND BROADBAND PROVIDERS FOR AMERICAN RURAL COMMUNITIES

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Attachment 1

Members of Educators and Broadband Providers for American Rural Communities ("EBPARC")

Lawrence County School System	Hackett School District
Amelia Academy	Pampa Independent School District
Clarksville Public School District	Chireno Independent School District
East Lycoming School District	Liberty Community Unit School District
Odin Public Schools	Cloud 9 Wireless
Wisper ISP	Crystal Automation Systems
Ziplink Internet	Ptera Inc.
Gazette Record Internet	Ndemand Inc.
Gtek Communications	Zirkel Wireless
Phone Doctor	Total Highspeed Internet Solutions
Veo Point	Highlands Wireless
RF Design Services LLC	KGI Communications
Wired or Wireless Inc.	Royell Communications
Bitwise Inc.	Hilltop Broadband
Allion USA	Sync Wave
StraightUPNet LLC.	King George County
Redwire	Metro Service Center
Gifford Wireless	Cogo Technologies
A Better Wireless	LiveWire

ClearNetworx	Air Grids
Minoan Mobile LLC	La Harpe Telephone
Paladin Wireless	Harlan 2 Way
City Net	Tenn Wireless
La Harpe Communications	New Source Broadband
American Wireless	Select Spectrum